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(54) Title: PROCESS FOR THE PREPARATION OF POLYORGANOSILYLATED CARBOXYLATE MONOMERS OR POLY-
MERS THEREOF

(57) Abstract: The present invention relates to a process for the preparation of polyorganosilylated carboxylate monomers or poly-
mers thereof, comprising the steps of reacting a cyclosiloxane of formula (R₄R₅SiO)_n with an unsaturated organosilylated carboxylate
monomer or a copolymer or a polymer thereof under the presence of a suitable catalyst.

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A. CLASSIFICATION OF SUBJECT MATTER

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 6 063 887 A (OKAWA TADASHI) 16 May 2000 (2000-05-16) column 1, line 10 -column 3, line 62; claims; example 1 | 1-29 |
| A | US 3 346 610 A (OMIETANSKI GEORGE M ET AL) 10 October 1967 (1967-10-10) claims 16-18; examples 1-7,11 | 1-29 |
| A | US 4 593 055 A (LEINER HOWARD H ET AL) 3 June 1986 (1986-06-03) column 1, line 13 -column 5, line 68; examples | 30,31 |
| A | US 6 172 132 B1 (HIKIJI YASUTO ET AL) 9 January 2001 (2001-01-09) abstract; claims; examples | 30,31 |

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|----------------------------|---------------------|
| US 6063887 | A | 16-05-2000 | JP 10168089 A | 23-06-1998 |
| US 3346610 | A | 10-10-1967 | BE 651371 A | 04-02-1965 |
| | | | DE 1218446 B | 08-06-1966 |
| | | | FR 1411204 A | 17-09-1965 |
| | | | GB 1066574 A | 26-04-1967 |
| | | | NL 128599 C | |
| | | | NL 6409022 A | 08-02-1965 |
| US 4593055 | A | 03-06-1986 | AT 43358 T | 15-06-1989 |
| | | | AU 573204 B2 | 02-06-1988 |
| | | | AU 2497184 A | 15-08-1984 |
| | | | BR 8404738 A | 26-12-1984 |
| | | | CA 1295893 C2 | 18-02-1992 |
| | | | DE 3478309 D1 | 29-06-1989 |
| | | | DK 440684 A | 14-09-1984 |
| | | | EP 0131626 A1 | 23-01-1985 |
| | | | HK 590 A | 12-01-1990 |
| | | | JP 5032433 B | 17-05-1993 |
| | | | JP 60500452 T | 04-04-1985 |
| | | | MX 159906 A | 29-09-1989 |
| | | | NO 843699 A , B, | 17-09-1984 |
| | | | NZ 206852 A | 20-02-1987 |
| | | | WO 8402915 A1 | 02-08-1984 |
| | | | US 4594365 A | 10-06-1986 |
| | | | US 4687792 A | 18-08-1987 |
| US 6172132 | B1 | 09-01-2001 | AT 223464 T | 15-09-2002 |
| | | | DE 69623413 D1 | 10-10-2002 |
| | | | DE 69623413 T2 | 07-08-2003 |
| | | | EP 0775733 A1 | 28-05-1997 |
| | | | HK 1002115 A1 | 03-01-2003 |
| | | | WO 9638508 A1 | 05-12-1996 |
| | | | JP 9048947 A | 18-02-1997 |
| | | | KR 235093 B1 | 15-12-1999 |
| | | | KR 235095 B1 | 15-03-2000 |
| | | | NO 970404 A | 01-04-1997 |
| | | | SG 77187 A1 | 19-12-2000 |
| | | | SG 77188 A1 | 19-12-2000 |
| | | | US 6110990 A | 29-08-2000 |
| | | | JP 9048946 A | 18-02-1997 |
| | | | JP 9048948 A | 18-02-1997 |
| | | | JP 9048949 A | 18-02-1997 |
| | | | JP 9194790 A | 29-07-1997 |
| | | | KR 235094 B1 | 15-03-2000 |